

## Appendix 5A: Soils Survey

LOCATION PAHOKEE                      FL

Established Series  
Rev. SHM-MFV-AMS  
10/2018

# PAHOKEE SERIES

The Pahokee series consists of moderately deep and deep, very poorly drained soils that formed in well decomposed, hydrophytic herbaceous plant remains overlying limestone bedrock on nearly level rises and/or dips in fresh water marshes and swamps. Slopes ranges from 0 to 1 percent. Mean annual precipitation is about 1550 millimeters (61 inches) and the mean annual temperature is about 24 degrees C (75 degrees F).

**TAXONOMIC CLASS:** Euic, hyperthermic Lithic Haplosaprists

**TYPICAL PEDON:** Pahokee muck--cultivated, (Colors are for moist soil unless otherwise stated).

**Oap**--0 to 25 centimeters (0 to 10 inches); black (N 2/) muck; moderate coarse subangular blocky structure parting to moderate fine and medium granular; very friable; less than 5 percent fiber, unrubbed; about 10 percent estimated mineral content; sodium pyrophosphate extract is brown (10YR 4/3); slightly acid; clear smooth boundary. (10 to 25 centimeters (4 to 10 inches) thick)

**Oa1**--25 to 71 centimeters (10 to 28 inches); black (5YR 2/1) muck; massive; friable; about 65 percent fiber, unrubbed and 10 percent rubbed; about 10 percent estimated mineral content; sodium phosphate extract is pale brown (10YR 6/3); slightly acid; gradual smooth boundary.

**Oa2**--71 to 105 centimeters (28 to 42 inches); dark reddish brown (5YR 2/2) muck; massive; friable; about 40 percent fiber, unrubbed and 10 percent fiber, rubbed; about 10 percent estimated mineral content; sodium phosphate extract is pale brown (10YR 6/3); slightly acid; abrupt wavy boundary. (66 to 130 centimeters (26 to 51 inches), combined thickness)

**2R**--105 centimeters (42 inches); soft to hard rippable limestone bedrock.

**TYPE LOCATION:** Palm Beach County, Florida. About 200 feet N. of S.R. 827 and 1/2 mile west of S.R. 827A; NE1/4, SE1/4, NW1/4, Sec. 30, T. 44 S., R. 37 E.  
Latitude and Longitude; 26 degrees, 36 minutes, 43.42 seconds North and 80 degrees, 40 minutes, 47.46 West; Datum WGS84.

**RANGE IN CHARACTERISTICS:**

Depth of the organic material: 66 to 130 centimeters (26 to 51 inches)

Fiber content: Unrubbed (30 to 65 percent) and Rubbed (1 to 16 percent)

Depth to bedrock: 91 to 130 centimeters (36 to 51 inches)

Mineral content in the Oa horizons: 0 to 25 percent

Oap horizon: (where present)

Hue: 5YR, 7.5YR, 10YR and 2.5Y

Value: 2 to 4

Chroma: 3 or less

Texture: Sapric material (muck)

Ec (mmhos/cm): 0 to 4

Sodium pyrophosphate extract color:

Hue: 10YR

Value: 4 to 6

Chroma: 1 to 3

Reaction in Calcium chloride: Strongly Acid to Neutral

Reaction in water: Moderately Acid to Slightly Alkaline

Oa horizon:

Hue: 5YR, 7.5YR, 10YR and 2.5Y

Value: 2 to 4

Chroma: 3 or less

Texture: Sapric material (muck)

Ec (mmhos/cm): 0 to 4

Sodium pyrophosphate extract color:

Hue: 10YR

Value: 4 to 6

Chroma: 1 to 3

Reaction in Calcium chloride: Strongly Acid to Neutral  
Reaction in water: Moderately Acid to Slightly Alkaline

Oe horizon: (where present)  
Hue: 5YR, 7.5YR, 10YR and 2.5Y  
Value: 3 or 4  
Chroma: 2 to 4  
Texture: Sapric material (mucky peat)  
Ec (mmhos/cm): 0 to 4  
Sodium pyrophosphate extract color:  
Hue: 10YR  
Value: 4 to 6  
Chroma: 1 to 3  
Reaction in Calcium chloride: Strongly Acid to Neutral  
Reaction in water: Moderately Acid to Slightly Alkaline

Cg horizon: (where present)  
Hue: 10YR, 2.5Y and 5Y  
Value: 2 to 7  
Chroma: 2 or less  
Textures: fine sand, sand, loamy fine sand, or loamy sand, or their mucky analogs.  
Some pedons may have textures of sandy loam, loam, silt loam, or their mucky analogs.  
Thickness: less than 25centimeters (10 inches)  
Reaction: Moderately Acid to Slightly Alkaline

The 2R horizon: soft to hard rippable limestone

### **COMPETING SERIES:**

These are the [Lauderhill](#) and [Tamiami](#) series.

[Lauderhill](#) soils have lithic contact within 91 centimeters (36 inches) of the surface.

[Tamiami](#) soils have lithic contact within 51 to 130 centimeters (20 to 51 inches) of the surface and have Cg horizons within the control section but have a combined thickness of less than one-half of the control section.

### **GEOGRAPHIC SETTING:**

Pahokee soils are in freshwater marshes within peninsular Florida.

Parent material: 91 to 130 centimeters (36 to 51 inches) of well decomposed, hydrophytic, herbaceous plant remains overlying limestone bedrock.

Landscape: Lower Coastal Plains

Landform (s): Freshwater marshes and swamps and depressions on marine terraces

Hillslopes profile position: none applicable  
Geomorphic component: Rice, dip and tread  
Slopes: 0 to 1 percent  
Elevation: 1 to 10 meters (3 to 33 feet)  
Mean annual air temperature: 21 to 26 degrees C (70 to 78 degrees F)  
Mean annual precipitation: 940 to 1,570 millimeters (37 to 62 inches)  
Frost free duration: 300 to 365 days

#### **GEOGRAPHICALLY ASSOCIATED SOILS:**

These are [Dania](#), [Lauderhill](#), [Terra Ceia](#) and [Torry](#) soils on similar landforms  
[Terra Ceia](#) and [Torry](#) soils are more than 130 centimeters (51 inches) deep to limestone bedrock  
[Torry](#) soils have 40 percent or more mineral content  
[Dania](#) have limestone bedrock within 20 to 51 centimeters (8 to 20 inches) of the surface  
[Lauderhill](#) soils have limestone bedrock between 51 to 91 centimeters (20 to 36 inches) of the surface

#### **DRAINAGE AND SATURATED HYDRAULIC CONDUCTIVITY:**

Drainage class: Very poorly drained  
Saturated hydraulic conductivity (Ksat): very high to high  
Permeability: rapid  
Surface runoff: negligible  
Depth to seasonal high water table: Under natural conditions, the soil is covered by water (ponded), or the water table is within 25 centimeters (10 inches) of the surface for 9 to 12 months during most years, except during extended dry periods; in other areas the water table is controlled by anthropogenic activities.  
Flooding frequency and duration: None  
Ponding frequency and duration: Frequently for long duration (9 to 12 months)

#### **USE AND VEGETATION:**

Under natural conditions Pahokee soils are used for water quality, water quantity and wildlife habitat.  
In drained areas under agriculture Pahokee soils are used for growing sugarcane, corn, sod, improved pasture, vegetables and other specialty crops.  
Potential natural vegetation consists of sawgrass, sedges, lilies, willow, spikerush, elderberry, and cypress.

#### **DISTRIBUTION AND EXTENT:**

Major Land Resource Areas (MLRA): This soil mainly occurs in Florida Everglades and Associated Areas (MLRA 156A). It also occurs in less extent in Southern Florida

Flatwoods (MLRA 155) and Southern Florida Lowlands (MLRA 156B).  
Extent: Large extent

**MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE:** Auburn,  
Alabama.

**SERIES ESTABLISHED:**  
Palm Beach County, Florida; 1975.

**REMARKS:**  
Control section - 0 to 105 centimeters (0 to 42 inches)

Diagnostic horizons and features recognized in this pedon:

Sapric soil materials: 0 to 105 centimeters (0 to 42 inches), (Oap, Oa1 and Oa2 horizons)

Lithic contact: 105 centimeters (42 inches), (2R horizon)

Aquic Conditions: Endosaturation 0 to 105 centimeters (0 to 42 inches)

Soil Series was classified according to the 12th Edition of the Keys to Soil Taxonomy.

**ADDITIONAL DATA:**  
Laboratory data for the Official Soil Series Description (OSD) typifying Pedon is available on the National Soil Survey website at:  
<http://ncsslabdatamart.sc.egov.usda.gov/querypage.aspx>

OSD User Site ID: S1971-FL099-S50\_008

OSD User Pedon ID: S1971FL099008

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National Cooperative Soil Survey  
U.S.A.